

Claims

What is claimed is:

1. A method of providing caller identification for calls
5 placed over an internet, comprising the steps of:
 - (a) receiving a dialed long distance number at an originating service switching point;
 - (b) triggering on the dialed long distance number;
 - 10 (c) sending a routing query, containing the dialed long distance number and an originating telephone line, to a service control point;
 - (d) when the call requires routing to an internet telephone carrier, sending a routing response including an authentication code;
 - (e) routing the call including a caller identification field to an
15 originating point of presence for the internet telephone carrier;
 - (f) routing the call over the internet to a destination point of presence for the internet telephone carrier;
 - (g) routing the call to a destination service switching point;
 - (h) the call encounters a trigger;
 - 20 (i) sending an authentication query containing the authentication code to the service control point;
 - (j) performing a validation of the authentication code; and
 - (l) when a positive authentication response is received, routing
the call to a terminating line associated with the dialed long distance
25 number, including the caller identification field.

2. The method of claim 1, further including the steps of:

5 (m) when the positive authentication response is not received,
routing the call to the terminating line associated with the dialed
long distance number with an indicator that a caller identification
information is unreliable.

3. The method of claim 1, further including the steps of:

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(m) when the positive authentication response is not received
routing the call to the termination line associated with the dialed
long distance number without the caller identification field.

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4. A method of providing caller identification for calls placed over an internet, comprising the steps of:

- 5 (a) receiving a call request including a dialed long distance number at a service switching point;
- (b) triggering on the long distance number;
- (c) sending a routing query to a service control point;
- (d) receiving a routing instruction to an originating point of presence for an internet carrier;
- 10 (e) routing the call to the originating point of presence for the internet carrier;
- (f) routing the call to a destination point of presence for the internet carrier;
- (g) routing the call to a destination service switching point;
- 15 (h) sending a caller identification query to the service control point;
- (i) receiving a caller identification response from the service control point; and
- 20 (j) routing the call to a terminating line associated with the dialed long distance number and including a caller identification information.

5. The method of claim 4, wherein step (c) further includes the step of:

5 (c1) sending the dialed long distance number and an originating telephone line as part of the routing query.

6. The method of claim 4, wherein step (d) further includes the steps of:

10 (d1) determining if the call is to be routed to the internet carrier;

(d2) when the call is to be routed to the internet carrier, calculating an authentication code;

15 (d3) sending the authentication code as part of the routing instruction.

7. The method of claim 6, wherein step (e) further includes the step of:

20 (e1) sending the authentication code to the originating point of presence.

8. The method of claim 6, wherein step (f) further includes the step of:

5 (f1) sending the authentication code to the destination point of presence.

9. The method of claim 6, wherein step (g) further includes the step of:

10 (g1) sending the authentication code to the destination service switching point.

10. The method of claim 6, wherein step (h) further includes the step of:

15 (h1) sending the authentication code to the service control point as part of the caller identification query.

11. The method of claim 6, wherein step (i) further includes the steps of:

- (i1) determining if the authentication code is valid;
- 5 (i2) when the authentication code is not valid, routing the call to the terminating line without the caller identification information;
- (i3) when the authentication code is valid, proceeding to step (j).

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12. The method of claim 4, wherein step (d) further includes the steps of:

- (d1) determining if the call is to be routed to the internet carrier;
- 15 (d2) when the call is to be routed to the internet carrier, storing a call processing record including an originating telephone line and the dialed long distance number.

13. The method of claim 12, step (i) further includes the steps of:

5 (i1) determining if the caller identification query is associated with the call processing record;

(i2) when the caller identification query is associated with the call processing record, sending a caller identification valid as part of the caller identification response;

10 (i3) when the caller identification query is not associated with the call processing record, routing the call to the terminating line without the caller identification information.

14. The method of claim 13, wherein step (i1) further includes sending the originating telephone line and the dialed long
15 distance number.

15. A method of providing caller identification for calls placed over an internet, comprising the steps of:

- 5 (a) receiving a call request including a dialed long distance number at a service switching point;
- (b) triggering on the long distance number;
- (c) sending a routing query to a service control point;
- (d) receiving a routing instruction to an originating point of presence for an internet carrier;
- 10 (e) routing a caller identification information over a signaling system to a destination service switching point;
- (f) routing the call to the originating point of presence for the internet carrier;
- (g) routing the call to a destination point of presence for the
15 internet carrier;
- (h) routing the call to the destination service switching point;
- (i) receiving a caller identification information over the signaling system; and
- (j) routing the call to a terminating line associated with the
20 dialed long distance number and including a caller identification information.

16. A method of providing caller identification for calls placed over an internet comprising the steps of:

- (a) originating a call in a first local access and transport area;
- 5 (b) forwarding the call to an internet carrier;
- (c) forwarding the call to a second local access and transport area;
- (d) receiving an indication of whether a caller identification information is valid;
- 10 (e) when the indication indicates that the caller identification information is valid, routing the long distance call to a terminating line and including the caller identification information.

17. The method of claim 16, further including the steps of:

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- (f) when the indication indicates that the caller identification information is not valid, routing the call to the terminating line without the caller identification information.

18. The method of claim 16, further including the steps of:

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- (f) when the indication indicates that the caller identification information is not valid, routing the call to the terminating line with an indicator the caller identification information.

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19. The method of claim 16, wherein step (b) further includes the steps of:

- 5 (b1) sending a routing query from a service switching point in the first local access transport area to a service control point;
- (b2) receiving a routing instruction from the service control point including an encrypted code.

20. The method of claim 19, wherein step (d) further includes the steps of:

- (d1) sending a caller identification query from a service switch point in the second local access and transport area to the service control point, including the encrypted code;
- 15 (d2) determining if the encrypted code is valid;
- (d3) when the encrypted code is valid sending a valid indication to the service switching point in the second local access and transport area.

21. The method of claim 16, wherein step (b) further includes the steps of:

5 (b1) sending a routing query from a service switching point in the first local access and transport area to a service control point;

(b2) sending a caller identification information over a signaling network to a destination service switching point in the second local access and transport area.

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22. The method of claim 16, wherein step (d) further includes the step of:

15 (d1) receiving an indication of whether a charged party ID is valid.